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Teaching of Natural Science in Public Schools.—In a paper read before the British Association, Rev. W. Farrar "expressed his conviction of the necessity and desirability of extensive education in physical science." Dr. Hooker "considered chemistry as too rigid a study for a young boy to commence with, and thought botany and zoölogy should be the first studies." Professor Tyndall "had often witnessed the deep interest boys took in the study of physics, when properly opened to them. The habit of verification by experiment, and the consciousness of a power of prediction, were most important characters to implant in the mind; but this could only be done by a true and philosophic study."

Method of obtaining a new Queen Bee from Worker-grubs.—Mr. Tegetmeier has described a practical application of Shirach's discovery respecting the power of bees to raise a new queen from a neuter or worker grub, by means of which the contents of old hives can be taken without destroying the bees or sacrificing any brood:—

> "The plan consists in driving out the queen, and about half the bees in the spring, and establishing them as a new swarm, when the bees remaining in the old hive have to raise a new queen from a worker grub. From the time required to accomplish this, it follows that no egg can be laid for about three weeks; by this time the workers, proceeding from eggs laid by the old queen, will have been hatched out, and the cells filled with honey, when the whole of the bees are to be driven out, and the honey, which will be found perfectly free from brood, retained for use."—*Proceedings of the Entomological Society of London.*

Novel way of Shooting Eagles.—Hunters find it a very easy matter to shoot the Bald Eagles, which are occasionally found in winter along the shores of Cayuga Lake. They approach the birds on horseback, to within fifteen or twenty yards, and then slide from the horse and shoot them at their leisure.—W. J. Beal.

GEOLOGY.

Origin of Life on our Globe.—With regard to the origin of life on our globe, M. Figuier does not dogmatize:—Did plants precede animals, we cannot tell, but such would appear to have been the order of creation." Our globe, he thinks, during the Cambrian and Silurian periods, was not yet mature enough for the existence of the higher organisms. "A pale sun struggled to penetrate the dense atmosphere of the primitive world, and yielded a dim and imperfect light to the first created beings as they left the hand of the Creator, organisms often rudimentary, but at other times sufficiently advanced to indicate a progress towards most perfect creations." The absence of organisms more advanced in the zoölogical scale than were the Trilobites, is no proof that more highly organized animals did not exist on the globe during the Cambro-Silurian period. Those who think the Darwinian theory approximates to the truth, and especially those who hold the "complete" theory, will of course believe, that animals, classed as high among the Vertebrata as the Trilobites and Cephalopoda of Lower Silurian rocks are among the Annulosa and Mollusca, existed at that time in regions of the globe from which the ocean, perhaps, forever excludes the inquiring palæontologist from verifying his conjectures. The discovery of the Eozoon Canadense in the Laurentian rocks, and the existence of beds of limestone in the same system, seem to confirm the views of those who regard the whole of the sedimentary rocks, from the Silurian and Cambrian upwards to the latest Tertiary beds, as including but a partial and fragmentary record of the past life of the globe,—impressions of the last-formed links of the great chain of organic life on our planet,—a few of the last chapters in the book of "Ancient Life."—*Quarterly Journal of Science, London.*

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MICROSCOPY.

Preparation of Snails' Tongues.—I present a plan devised many years ago, for such small forms as *Littorina* and the like, whose lingual ribbons are extremely tender, and difficult to see as well as handle. I use a rather strong solution of caustic potassa, the strength of which I cannot exactly specify, as it must vary with the species under manipulation, some having ribbons of such strength that they will bear the very strongest solution, while others will be injured by immersion in a comparatively weak liquid. Into this solution in a test tube or other convenient vessel, plunge the whole animal; in the case of the smaller creatures, shell and all. The specimen may be fresh, or preserved in alcohol, but on the former the potassa will act most vigorously. I have found that one good way is to let the animal stand in the shell until it dies and begins to decompose, when it can readily be removed, and falls in pieces. The lingual ribbon, as a general thing, is not easily decomposed. Now either set the potassa solution, with the animal in it, aside for some days, or boil it at once. You will then find that almost everything dissolves and becomes "soap," except the shell and operculum, a few shreds of muscular fibre, and the prized lingual ribbon. Frequent washing with fresh water now removes all the alkali, and leaves the teeth clean and in perfect order. It can then be mounted in any preservative fluid which is miscible with water, and is best removed to alcohol to be kept until it is mounted. To mount it, remove it from the spirit, and without drying plunge it in pure spirits of turpentine, in which it should be boiled for a short time to drive off some of the alcohol. It can now